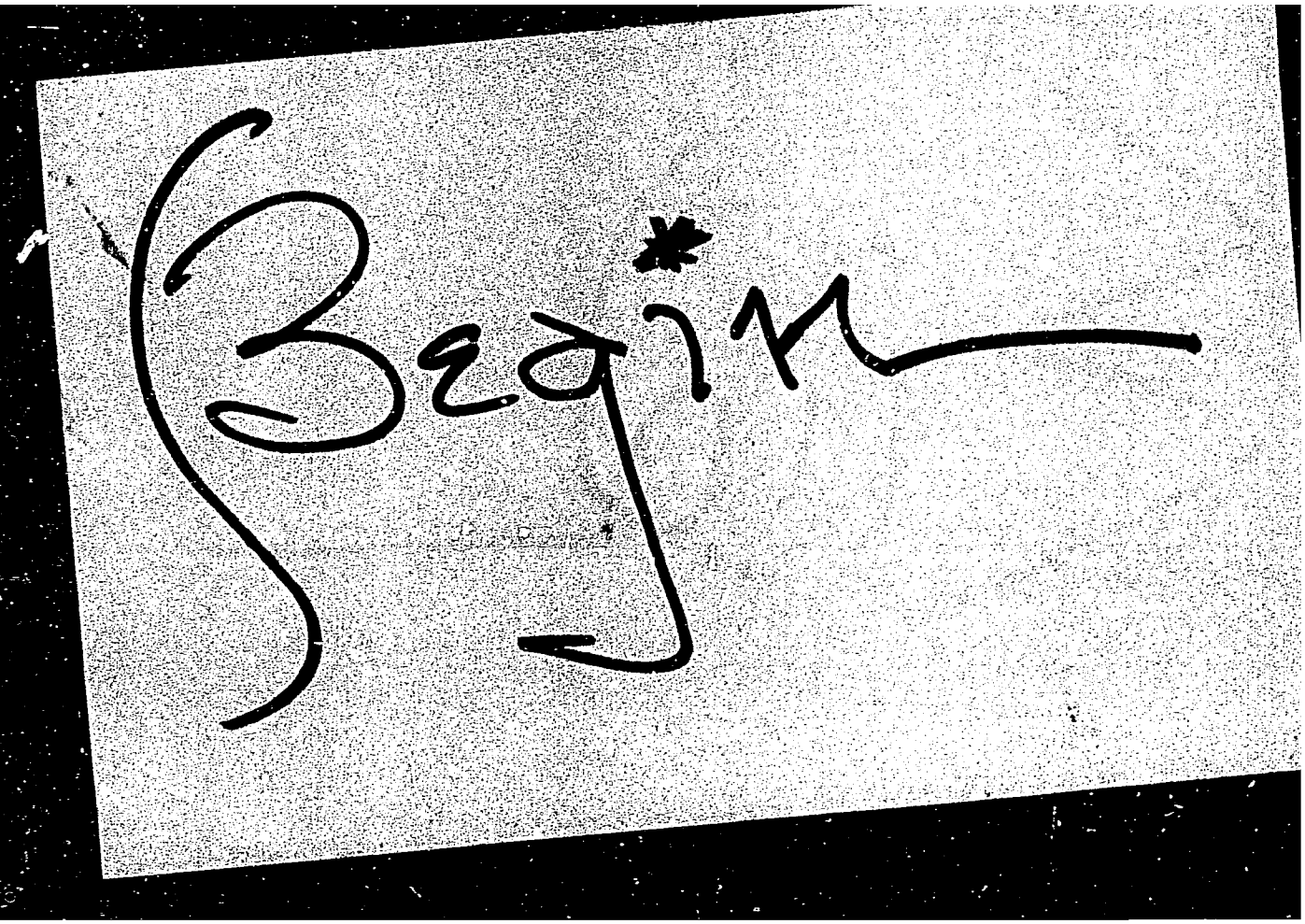

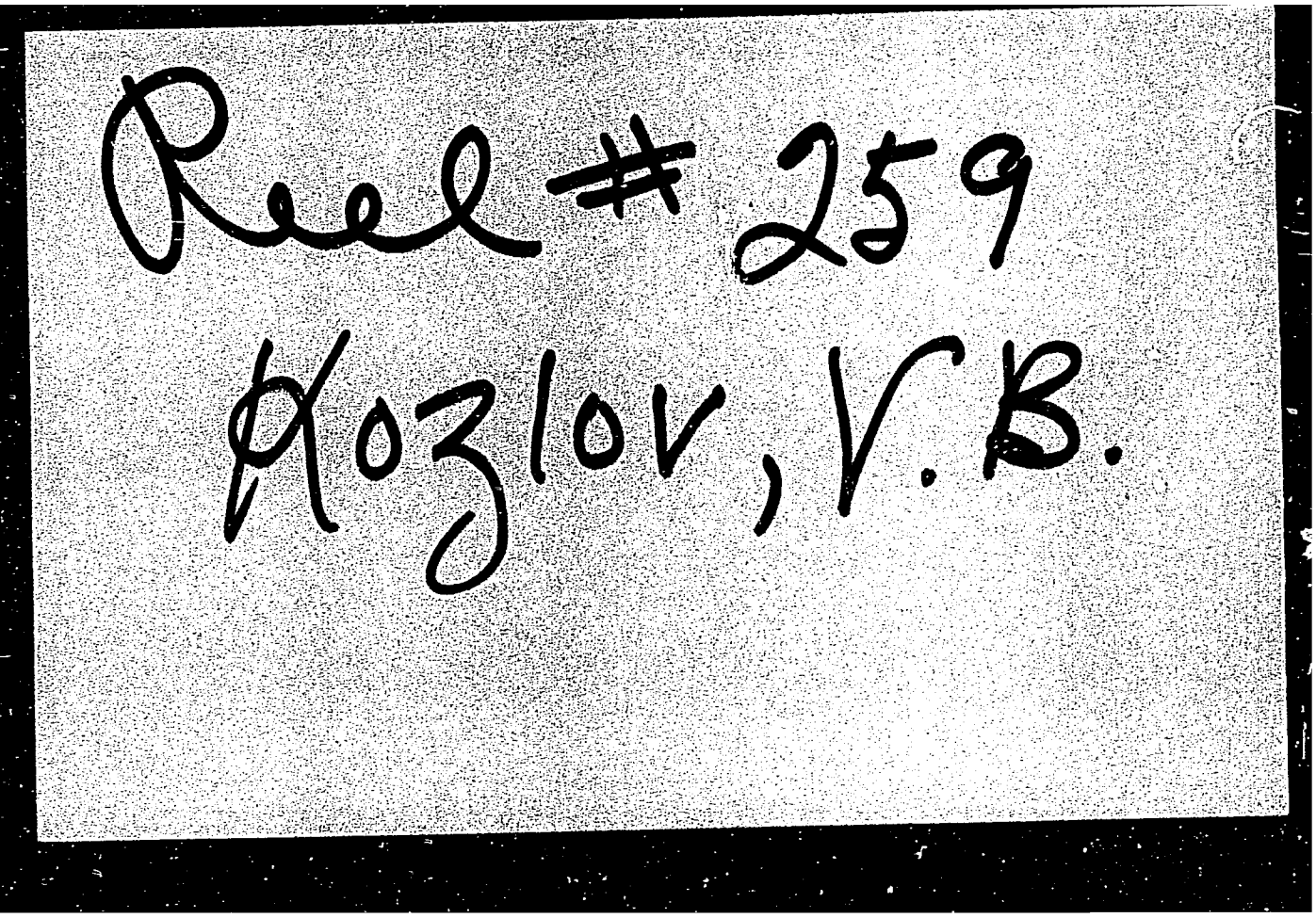

KOZLOV, VIKTOR BORISOVICH

MOKEYEV, Mikhail Yefimovich[deceased]; KOZLOV, Viktor Borisovich; SOROKIN, N.N., redaktor; VERINA, G.P., tekhnicheskiy redaktor.

[Ultrasonic rail defectoscope of the Central Scientific Research Institute of the Ministry of Roads, Railroads and Waterways] Ul'trazvukovoi rel'sovyi defektoskop TsNII MPS. Moskva, Gos. transp. zhel-dor.izd-vo, 1956. 63 p. (MLRA 9:4)
(Railroads--Rails) (Ultrasonic testing)

KOZLOV, V.B., inzhener.

A new ultrasonic defectoscope. Put' i put. khoz. no.2:38-39 F '57. (MLRA 10:4)
(Railroads--Rails)
(Ultrasonic waves--Industrial applications)

KOZLOV, V.B.

[URD-58 ultrasonic rail flaw detector introduced by the Central Research Institute of the Ministry of Railroad Transportation] Ul'trazvukovoi rel'sovyi defektoskop URD-58 sistemy TSNII MPS. Moskva, 1959. 20p. (Moscow. Vsesoiuznyi nauchno-issledovatel'skii institut zheleznodorozhnogo transporta. Soobshchenie, no.3) (MIRA 13:9)

(Railroads--Rails--Testing)

S/194/61/000/006/056/077
D201/D302

AUTHOR: Kozlov, V.B.

TITLE: Ultrasonic track defect detector [illegible]-58 (URD-58) of the TsNII MPS system

PERIODICAL: Referativnyy zhurnal. Avtomatika i radioelektronika, no. 6, 1961, 16, abstract 6 E117 (Soobshch. Vses. n.-i. in-t. transp., 1959, no. 3, 21 pages, illustr)

TEXT: The Department of Rail Defect Detection has designed an ultrasonic defect detector URD-58 which makes it possible to check the rails over their whole length by connecting a butt member. In URD-58 the CRT is replaced by headphones which eases considerably the working conditions of personnel and increases efficiency. In the present communication which has the form of instructions, general information about URD-58 is given, the principles of its operation described, its construction and el. circuit diagram, its use on the line, the sequence in determining its readings, its mainten-

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S/194/61/000/006/056/077
D201/D302

Ultrasonic track defect detector...

ance and adjustments and rules in repairing are given. Enclosed are the general and installation circuits of URD-58 together with its specifications and a photograph of its general appearance. The communication is intended for the use of workers concerned with the maintenance and exploration of rail track defects. [Abstracter's note: Complete translation]

Card 2/2

KOZLOV, V.B.

The URD-58 ultrasonic flaw detector for continuous inspection of rails. Biul.tekh.-ekon.inform. no.8:73-76 '59. (MIRA 13:1)

(Railroads--Rails)
(Ultrasonic waves--Industrial applications)

KOZLOV, V.B., inzh.

Ultrasonic rail inspection. Put' i put.khoz. 4 no.6:13-15 Je '60. (MIRA 13:7)
(Railroads--Rails--Testing)
(Ultrasonic testing)

KOZLOV, Viktor Borisovich, inzh.; LYSENKO, Il'ya Mitrofanovich, inzh.; USPENSKIY, Ye.I., inzh., red.; SERGEYEVA, A.I., red.; VASIL'YEVA, N.N., tekhn.red.

[Using rail defectoscopes] Opyt primeneniia rel'sovykh defektoskopov. Moskva, Vses.izdatel'sko-poligr.ob"edinenie M-va putei soobshcheniia, 1962. 62 p. (MIRA 15:5)

(Railroads—Rails—Defects)

KOZLOV, V.B., inzh.

High-speed ultrasonic rail flaw detection. Trudy TSNII MPS no.243:37-46 '62. (MIRA 16:6)

(Railroads—Rails—Testing)
(Ultrasonic testing)

KOZLOV, V.B.; LYSENKO, I.M.; MATVEYEV, A.N.; TRAKHTENBERG, M.V.; USPENSKIY, Ye.I.; GURVICH, A.K.; BESPALOV, B.N., inzh., retsenzent; SPASSKIY, D.S., inzh., red.; MEDVEDEVA, M.A., tekhn. red.

[Flaw detection in reails] Rel'sovaia defektorskopiia. [By] V.B.Kozlov i dr. Izd.2., perer. i dop. Moskva, Transzheldorizdat, 1963. 286 p. (MIRA 16:8)
(Railroads--Rails--Defects)
(Nondestructive testing)

POPOV, N.A., kand.fiziko-matematicheskikh nauk; KOZLOV, V.B., inzh.

A switch consisting of several series-connected arc-quenching chambers. Vest. elektroprom. 34 no.2:28-31 F '63. (MIRA 16:2)
(Electric switchgear)

KOZLOV, V.B., starshiy nauchnyy sotrudnik; MUKHIN, V.P., inzh.

Single-rail defectoscope. Put' i put.khoz. 9 no.5:26-28 '65.
(MIRA 18:5)

1. Vsesoyuznyy nauchno-issledovatel'skiy institut zheleznodorozhnogo transporta Ministerstva putey soobshcheniya (for Kozlov).

ACC NR: AP6021219 (N) SOURCE CODE: UR/0294/66/004/003/0424/0428

AUTHOR: Kalafati, D. D.; Kozlov, V. B.

ORG: Power Engineering Institute im. Krzhizhanovskiy (Energeticheskiy institut)

TITLE: Thermodynamics of cycles with mixing of liquid metals before MHD converter

SOURCE: Teplofizika vysokikh temperatur, v. 4, no. 3, 1966, 424-428

TOPIC TAGS: MHD generator, MHD converter, temperature entropy diagram, liquid metal

ABSTRACT: One of the most important elements in the design of MHD generators utilizing liquid metals is the accelerating phase of the working fluid. The most common method used is conversion of some of the liquid into vapor. The study of thermodynamic cycles associated with this and the remaining stages of the MHD generators is the subject of this paper. Diagrams of temperature-entropy cycles (reversible and irreversible) is discussed for the case of mixing of a one-component liquid metal before the MHD-converter stage. It is used to derive the efficiency expression and its dependence on the temperature of saturation and vapor concentration. Another expression for efficiency is derived in terms of saturation temperature at the nozzle entrance and exit and after the cooling stage. A maximum is found to exist over a range of vapor concentrations at the reactor exit. The system discussed here has low efficiency due to losses in the mixing stage. It is shown that even for relatively high ther-

UDC: 621.313.12.528.4:621.4

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ACC NR: AP6021219

mal efficiency, the electrical efficiency remains low. It is suggested that multi-stage mixing or employment of a two-component working fluid should lead to more efficient MHD generators. Orig. art. has: 6 figures, 6 formulas.

SUB CODE: 20/ SUBM DATE: 18Jun65/ ORIG REF: 002/ OTH REF: 004

Card 2/2

KOZLOV, V.D.; ROSHCHUPKINA, O.S.

Distribution of molybdenum in Paleozoic granitoids in the Undino-Gazimur region (eastern Transbaikalia). Geokhimiia no. 12:1459-1468 D '65 (MIRA 19:1)

1. Institut geokhimii Sibirskogo otdeleniya AN SSSR. Submitted July 6, 1965.

GUREVICH, Isay Isidorovich; TARASOV, Lev Vasil'yevich; KOZLOV, V.D., red.

[Physics of low-energy neutrons] Fizika neytronov nizkikh energii. Moskva, Nauka, 1965. 607 p.
(MIRA 19:1)

VAYSENBERG, Aleksandr Ovseyevich; KOZLOV, V.D., red.; VINEO, I.G., red.

[Mu-mesons] Miu - mezon. Moskva, Izd-vo "Nauka," 1964. 399 p. (MIRA 17:7)

KOZLOV, V.D., mashinist-instruktor

My additions to engineer Mal'tsev's article. Elek.i tepl.tiaga 3 no.6:36-38 Je '59. (MIRA 12:9)
(Electric locomotives--Electric equipment--Maintenance)

KOZLOV, V.D., mashinist-instruktor

How to assure the control of a train in the event that the starter resistors on the N8 electric locomotive become inoperative. Elek. i tepl. tiaga 5 no.8:30-31 Ag '61.
(MIRA 14:9)

1. Depo Ruzayevka Kuybyshevskoy dorogi.
(Electric locomotives)

KOZLOV, V.D., mashinist-instruktor

Work practices of the workers of the Ruzayevka locomotive repair shop. Elek. i tepl. tiaga no.6:36-37 Je '62. (MIRA 15:7)

1. Depo Ruzayevka Kuybyshevskoy dorogi.
(Ruzayevka--Locomotives--Repairing)
(Ruzayevka--Railroads--Repair shops)

KOMPANEYETS, Aleksandr Solomonovich; KOZLOV, V.D., red.;
KOLESNIKOVA, A.P., tekhn. red.

[Shock waves] Udarnye volny. Moskva, Fizmatgiz, 1963.
90 p. (MIRA 16:11)
(Shock waves)

OKUN', Lev Borisovich; KOZLOV, V.D., red.; PLAKSHE, L.Yu., tekhn. red.

[Weak interaction of elementary particles] Slaboe vzaimodeistvie elementarnykh chastits. Moskva, Fizmatgiz, 1963. 247 p. (MIRA 17:1)

POPOV, V.A., red.; KOZLOV, V.D., red.; MURASHOVA, N.Ya., tekhn. red.

[Magnetohydrodynamic method of energy conversion] Magnitogidrodinamicheskii metod preobrazovaniia energii. Moskva, Fizmatgiz, 1963. 536 p. (MIRA 16:12)
(Magnetohydrodynamics) (Power (Mechanics))

KALASHNIKOV, Sergey Grigor'yevich; VERES, L.F., red.; KOZLOV, V.D., red.

[Electricity] Elektrichestvo. Izd.2., perer. Moskva, Nauka, 1964. 666 p. (MIRA 17:12)

KARASIK, Vladimir Romanovich; BETOV, K.P., prof., red.; KOZLOV, V.P., red.; RYDNIK, V.I., red.

[Physics and technology of strong magnetic fields] Fizika i tekhnika sil'nykh magnitnykh polei. Moskva, Nauka, 1964. 347 p. (MIRA 17:10)

KHALATNIKOV, Isaak Markovich; KOZLOV, V.D., red.

[Introduction to superfluidity theory] Vvedenie v teoriiu sverkhtekuchesti. Moskva, Nauka, 1965. 157 p.
(MIRA 18:9)

GUL', Yu.P.; KOZLOV, V.F.; PASAL'SKIY, V.M.

Changes in the properties of hardened, low-carbon steel during low-temperature tempering. Izv. vys. ucheb. zav.; chern. met. 7 no.8:142-148 '64. (MIRA 17:9)

1. Dnepropetrovskiy gosudarstvennyy universitet i Dnepropetrovskiy metallurgicheskiy institut.

Name: KOZLOV, V. F.

Dissertation: Material on the study of nerve elements in the bone marrow and certain vessels in the normal and in leucoses

Degree: Cand Med Sci

Defended at
~~Affiliation~~: Stalingrad State Medical Inst
Publication

~~Defense~~ Date, Place: 1956, Stalingrad

Source: Knizhnaya Letopis', No 45, 1956

IL'INA, K.A...Prinimali uchastiye: BUSLAYEV, V.G., starshiy inzhener; KOZLOV, V.F., ispoln. obyazannosti inzhenera; YESIPOVA, O.V., starshiy tekhnik; BRODYANSKAYA, Ye.A., tekhnik. YAKOBSON, M.O., prof., doktor tekhn.nauk, red.; ALEKSEYEVA, T.V., tekhn.red.

[Standard technological processes in the manufacture of medium size machine parts; instructional materials] Tipovye tekhnologicheskie protsessy obrabotki korpusnykh detalei srednikh razmerov; rukovodiashchie materialy. Pod red. M.O.Iakobsona. Moskva, TSentr.biuro tekhn.informatsii, 1958. 218 p. (MIRA 12:7)

1. Moscow. Eksperimental'nyy nauchno-issledovatel'skiy institut metallorezhushchikh stankov.
(Machinery industry)

KOZLOV, V.F.

To the editors of the "Izvestiia" Academy of Sciences of the U.S.S.R. (Geological series). Izv.AN SSSR. Ser.geol. 26 no.1:101-102 Ja '61. (MIRA 15:6)

(Yakutia—Iron ores)

L 17417-63 EWT(1)/BDS AFFTC/ASD/ESD-3 RH

ACCESSION NR: AP3005554 S/0049/63/000/007/1100/1107

AUTHOR: Korlov, V. F.

57
55

TITLE: Effect of changes in the vertical-exchange factor on drift currents (presented by S. V. Dobroklonskiy, member of editorial staff)

SOURCE: AN SSSR. Izvestiya, ser. geofiz., no. 7, 1963, 1100-1107

TOPIC TAGS: vertical exchange, drift current, turbulence, exchange factor, Coriolis effect, power function

ABSTRACT: The author undertakes to explain in what measure the inadequacy of knowledge concerning the true behavior of the exchange factor affects the accuracy of the results obtained in ordinary calculations. He begins with the classic problem of V. W. Ekman (On the influence of the Earth's rotation on oceanic currents, Arkiv for Matematik, Astronomi och Fysik, 2, No. 11, 1905). From this he derives a series of equations examining the effect of changes in the vertical-exchange factor in power functions on steady wind currents. From his analysis and computations he concludes that the effect of changes in the exchange factor with depth (in the class of power functions) on the velocity field decreases with increase in the parameter $a = h\sqrt{f/A_0}$, h being the depth of water, f, the Coriolis

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ACCESSION NR: AP3005554

2

factor, and A_0, the exchange factor at the surface. For values of $a \geq 10$, this effect becomes vanishingly small, and this permits one to use the law that is analytically the most simple. If one takes $f = 10^{-4}$ sec^{-1} and $A_0 = 10^2$ cm^2/sec at the middle latitudes, then $h = 10a$ meters. Consequently, at depths greater than 100 meters, changes in the power of the function have no effect on the velocity field. For small values of a there exists the very unlikely possibility of power laws governing changes in the exchange factor with powers between 0 and 1. "The author thanks V. I. Belokon', a student at the Dal'nevostochnyy gosudarstvennyy universitet for making a number of computations." Orig. art. has: 3 figures and 23 formulas.

ASSOCIATION: Dal'nevostochnyy gosudarstvennyy universitet (Far Eastern State University)

SUBMITTED: 20Aug62 DATE ACQ: 20Sep63 ENCL: 00

SUB CODE: PH, AS NO REF SOV: 004 OTHER: 004

Card 2/2

68029

~~24(1)~~ 9.9000 SOV/155-58-6-31/36

AUTHOR: Kozlov, V.F.

TITLE: Reflection of a Sound Wave by a Deformed Plane

PERIODICAL: Nauchnyye doklady vysshey shkoly. Fiziko-matematicheskiye nauki, 1958, Nr 6, pp 197-200 (USSR)

ABSTRACT: The author considers the reflection of a sound wave of constant intensity by a rigid plane z = 0 which has a rectangular opening in which there is a movable rectangular piston. The author gives a general expression for the force effected on the piston by the gas. Under consideration of the forces of resistance the author describes the law of motion of the piston by means of elementary functions and their integrals. The paper generalizes the results of Kh.A. Rakhmatulin [Ref 2] who considered the same problem for the case of a movable infinite strip.
There are 2 references, 1 of which is Soviet, and 1 English.

ASSOCIATION: Moskovskiy gosudarstvennyy universitet imeni M.V. Lomonosova (Moscow State University imeni M.V. Lomonosov)

SUBMITTED: July 4, 1958

Card 1/1

SOV/57-28-7-25/35

AUTHORS: Fogel', Ya. M., Mirin, R. V., Kozlov, V. F.

TITLE: On the Method of Measuring the Effective Cross Sections of the Formation Processes of Negative Ions in Atomic Collisions (K voprosu o metodike izmereniya effektivnykh secheniy protsessov otrazovaniya otritsatel'nykh ionov pri atomnykh stolknoveniyakh)

PERIODICAL: Zhurnal tekhnicheskoy fiziki, 1958, Vol. 28, Nr 7, pp.1526-1537 (USSR)

ABSTRACT: The processes of the formation of negative ions in atomic collisions are in a general form expressed by formula (1). However, for the measurement of the effective cross sections of the process a new method is proposed. The influence of inhomogeneous scattering shows much less effect in this case on the magnitude of the measured cross section than is the case when using the mass-spectrometric method. This method is described, the results of the measurements of the effective cross sections of double overcharge are given according to the new method, and the comparison of these data with

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SOV/57-23-7-25/35

On the Method of Measuring the Effective Cross Sections of the Formation Processes of Negative Ions in Atomic Collisions

the data of the measurement of the equal cross sections by means of the mass-spectrometric method is carried out. The principle of the new method is explained by a concrete example. The apparatus described in detail in an earlier work (Ref 2) is used for the measurement of the cross sections of capture of two electrons by single-charged positive ions according to the method described. The ions H^+ in H_2 and Kr and the ions C^+, O^+ and Cl^+ in Kr, i.e. the cross sections of their double overcharge was measured, and the data obtained were compared to those results obtained by the mass-spectrometric method. The results of the measurements show that in the case of the investigated ion-molecule pairs forming due to double overcharge the negative ions are scattered through very small angles. The method described can be used without limitation for the measurement of cross sections expressed by the formula (1). It is suited for cross sections of the electron-loss processes only on the condition that the cross section of the loss of an electron is by far greater than the sum of the cross sections of the loss of two, three etc. electrons. There are 8 figures and 11 Soviet

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SOV/57-28-7-25/35

On the Method of Measuring the Effective Cross Sections of the Formation Processes of Negative Ions in Atomic Collisions

references.

ASSOCIATION: Fiziko-tekhnicheskiy institut AN USSR, Khar'kov
(Physico-technical Institute, AS Ukrainian SSR, Khar'kov)

SUBMITTED: October 11, 1957

Ions--Nuclear reactions

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21(0)

AUTHORS: Fogel', Ya. M., Mitin, R. V., Kozlov, V. F., SOV/56-35-3-2, Romashko, N. D.

TITLE: On the Applicability of Massey's Adiabatic Hypothesis to Double Charge Exchange Processes (O primenimosti adiabaticheskoy gipotezy Messi k protsessam dvoynoy peremeryadki)

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1958, Vol 35, Nr 3, pp 565 - 573 (USSR)

ABSTRACT: The present paper aims at analyzing the ion velocity dependence of the effective cross sections for double charge exchange of some types of ions in inert gases. The effective cross sections of the following processes were measured: $H_1^+ \rightarrow H_1^-$ in He, Ne, Ar, Kr, Xe, H_2, N_2 in the energy interval of 3-65 keV, further $C_1^+ \rightarrow C_1^-$ in Ar, Kr and Xe (50-65 keV), $O_1^+ - O_1^-$ in Ar and Kr (50-65 keV) $Cl_1^+ - Cl_1^-$ in Xe (50-60 keV) and $F_1^+ \rightarrow F_1^-$ in He, Ne, Ar, Kr, Xe and H_2 (5-50 keV). Figures 1-6 show the curves σ_{1-1} (v) for the various ions. Measurements were carried out

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according to the mass-spectroscopic method by means of a device which is described in detail (Ref 12). The measurements of cross sections σ_{1-1} for C_1^+, O_1^+, Cl_1^+ agree (within the error limits) with those of references 11 and 12, whereas those obtained for $H_1^+ \rightarrow H_1$ resulted in values that are lower by 1 1/2 to twice their amount than those of reference 9. It was found that the position of the maxima of the $\sigma_{1-1}(v)$-curves corresponds to Massey's adiabatic criterion. When carrying out such an analysis it is important to take into consideration the existence of excited ions in the primary beam as well as the formation of slow excited double-charged ions. Like in the case of the ordinary charge exchange the constant a in the double charge exchange depends slightly on the nature of the ion-molecule pair. (a = distance upon which the forces of interaction between the impinging particles act). The a-value for the double-charge exchange in inert gases (average: 1,5 Å) differs essentially from that in

On the Applicability of Massey's Adiabatic Hypothesis to SOV/56-35-3-2/6
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molecular gases. According to equation (1) $a|\Delta E|/h\nu \approx 1$ the following is given (in Å) for a:

$H^+ - H_2$: 2,3; $O^+ - H_2$:0,9; $F^+ - H_2$:0,9; $H^+ - N_2$:2,0; $Cl^+ - N_2$:0,9.

In conclusion the authors thank Professor A.K.Val'ter for the interest he displayed in this work. There are 7 figures, 3 tables, and 17 references, 6 of which are Soviet.

ASSOCIATION: Fiziko-tekhnicheskiy institut Akademii nauk Ukrainskoy SSR (Physico-Mathematical Institute of the Academy of Sciences, Ukrainskaya SSR)

SUBMITTED: March 15, 1958

Card 3/3

21(0)

AUTHORS: Fogel', Ya. M., Kozlov, V. F. Kalmykov, A. A., Muratov, V. I.

SOV/56-36-4-55/70

TITLE: Direct Proof of the Applicability of the Adiabatic Criterion of Massey for Processes With Double Charge Exchange (Pryamoye dokazatel'stvo primenimosti adiabaticheskogo kriteriya Messi k protsessam dvoynoy perezaryadki)

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1959, Vol 36, Nr 4, pp 1312-1314 (USSR)

ABSTRACT: As shown in a previous paper (Ref 1), the investigation of the rate dependence of the cross sections of the double re-charge of the ions H^+ and F^- leads to the result that the curves $\sigma_{1-1}(v)$ have two maxima for these ions. This fact is dealt with according to Massey's adiabatic criterion; thus, a maximum of such an inelastic process with a resonance defect ΔE must be observable if $a|\Delta E|/hv_{max} \approx 1$. The occurrence of two maxima in the curves $\sigma_{1-1}(v)$ for the processes $H^+ \rightarrow H^-$ and $F^- \rightarrow F^-$ can be explained either by the formation of slow excited doubly-charged ions (at $H^+ \rightarrow H^-$) or by the existence of impurity ions in excited metastable states in the primary

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beam (at $F^+ \rightarrow F^-$). The two maxima indicate that besides the process $F^+ \rightarrow F^-$ also the process $F^{+*} \rightarrow F^-$ develops, viz. with a different resonance defect but with the same a-value. For the purpose of clarifying these conditions the authors investigated the processes $B^+ \rightarrow B^-$ in Xe, Kr, and H_2 and $O^+ \rightarrow O^-$ in Xe. In the former case the curve $\sigma_{1,-1}(v)$ had 3 maxima, in the latter it had two. Results:

Process	Excitation energy [ev] (calculated)	ion term		term energy [ev]
$B^+ - Kr$	5.6 ± 1.6	$2s2p$	$^3P^0$	4.6
$B^+ - Kr$	11.7 ± 1.6	$2p^2$	^3P	12.1
$B^+ - Xe$	5.0 ± 0.9	$2s2p$	$^3P^0$	4.6
$B^+ - Xe$	11.3 ± 1.0	$2p^2$	^3P	12.1

Direct Proof of the Applicability of the Adiabatic Criterion of Massey for Processes With Double Charge Exchange

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Process	Excitation energy [ev] (calculated)	ion term	term energy [ev]
$B^+ - H_2$	4.4 ± 0.3	$2s2p\ ^3P^0$	4.6
$B^+ - H_2$	11.0 ± 2.0	$2p^2\ ^3P$	12.1
$O^+ - Xe$	24.2 ± 0.5	$2s2p^4\ ^2S$	24.4

The results obtained are discussed in detail. For $Li^+ \rightarrow Kr$, $Li^+ \rightarrow H_2$, and $Li^+ \rightarrow Ar$ the curves $\sigma_{1-1}(v)$ are given in form of diagrams. The additional maxima are where they must be according to Massey's criterion. Herefrom follows the identity of the a-values for processes of double re-charge of uncharged and charged ions. The results obtained by the investigation of the process $Li^+ \rightarrow Li^-$ provide direct proof of the applicability of Massey's criterion to such ions and also prove the correctness of the explanation of the nature of additional maxima of the curves $\sigma_{1-1}(v)$ in the processes investigated.

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Direct Proof of the Applicability of the Adiabatic Criterion of Massey for Processes With Double Charge Exchange

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There are 1 figure, 1 table, and 3 references, 2 of which are Soviet.

ASSOCIATION: Fiziko-tekhnicheskiy institut Akademii nauk Ukrainskoy SSR (Physico-technical Institute of the Academy of Sciences, Ukrainskaya SSR). Khar'kovskiy gosudarstvennyy universitet (Khar'kov State University)

SUBMITTED: December 20, 1958

Card 4/4

21(1)

AUTHORS: Fogel', Ya. M., Kozlov, V. F. Kalmykov, A. A.

SOV/56-36-5-4/76

TITLE: On the Problem of the Existence of the Negative Nitrogen Ion (K voprosu o sushchestvovanii otritsatel'nogo iona azota)

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1959, Vol 36, Nr 4, pp 1354-1356 (USSR)

ABSTRACT: The authors of the present paper as well as Dukel'skiy and his collaborators have already investigated this problem and published a number of papers (Refs 1 - 5, 8 - 11) dealing with this subject. The results obtained by these investigations are first discussed. For the investigations, the results of which are discussed by the present paper, a mass-spectrometrical device, which is described by reference 13, was used. An N^+ beam of 34 kev coming from a high frequency ion source was led into the collision chamber, which was filled with krypton. A number of peaks was observed in the mass spectrum of the beam, of which the following were observed in the region of the peak corresponding to the mass 14: $12(C^+_{12})$,

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$^{13}(C^+_{13} + C_{12}H^+)$, $^{15}(N^+_{15} + N_{14}H^+)$, $^{16}(O^+_{16} + C_{12}H^+_4 + N_{14}H^+_2)$, $^{17}(O_{16}H^+ + N_{14}H^+_3)$ and $^{18}(O_{16}H^+_2)$. The resolving power of the mass monochromator sufficed for the purpose of clearly separating the peak with the mass 14 from the neighboring peaks. Analysis of the beam was carried out by means of a magnetic analyzer. Measurement of the current of the negative ions was carried out by means of a tube electrometer having a sensitivity of 10^{-14} a/division mark. Already the first experiment carried out with an ion beam (m=14) and an amperage of 10^{-7} a showed that in the beam penetrating the collision chamber there were some N^--ions with m=14. By the mass-spectrometer method a cross section for the formation of an N^--ion during passage of an N^+ through a gas target of $3.2.10^{-22}$ cm^2 was determined. Consideration of σ^{14}_{1-1} finally resulted for the process $N^+ \rightarrow N^-$ in a cross

On the Problem of the Existence of the Negative Nitrogen Ion

SOV/56-36-5-4/76

section value of $1.9.10^{-22}cm^2$. The experiments carried out with H_2O^+ and the processes $CH_2^+ \rightarrow CH_2^-$ and $NH^+ \rightarrow NH^-$ at an energy of the positive ions of 34 kev in krypton are described. For the two last-mentioned processes cross sections of $5.3.10^{-19}$ and $5.3.10^{-18}$ cm^2 are obtained. The question was further investigated as to whether N_2^+-ions occurred, but none were found, i. e. the cross section of the process $N_2^+ \rightarrow N_2^-$ should be smaller than $1.5.10^{-22}cm^2$. There are 17 references, 10 of which are Soviet.

ASSOCIATION: Fiziko-tekhnicheskiy institut Akademii nauk Ukrainskoy SSR (Physico-Technical Institute of the Academy of Sciences, Ukrainskaya SSR)

SUBMITTED: November 15, 1958

Card 3/3

S/055/60/000/03/06/010

AUTHOR: Kozlov, V.F.

TITLE: Diffraction of Nonstationary Sound Waves on an Endless Plate

PERIODICAL: Vestnik Moskovskogo universiteta. Seriya I, matematika, mekhanika, 1960, No. 3, pp. 56-59

TEXT: The author considers the diffraction of an instationary sound wave at the infinitely thin strip $0 \leqslant x \leqslant 1$; $y=0$; $-\infty < z < \infty$. The corresponding plane problem was solved by Fox (Ref.1). In the present paper the author generalizes the method of (Ref.1) to the three-dimensional case. For the pressure onto the plate he obtains an explicit integral expression. There is 1 figure and 2 references: 1 Soviet and 1 English.

ASSOCIATION: Kafedra volnovoy dinamiki (Department of Wave Dynamics)

SUBMITTED: July 13, 1959

Card 1/1

S/089/60/008/04/01/009
B113/B017

AUTHORS: Kozlov, V. F., Zemlyanskiy, M. G.

TITLE: Construction of the Research Reactor BBP-C (VVR-S)

PERIODICAL: Atomnaya energiya, 1960, Vol. 8, No. 4, pp. 305-315

TEXT: The experimental possibilities of this water-moderated, water-cooled reactor are shown, its main characteristics are given, the general construction and that of the main parts, such as control and protection system, charge, shutters, thermal column, fuel-rod storage and the examination of the equipment are described. From 1957-1959 6 reactors of this type have been put into operation, five are nearing completion, four of them with increased output. The building elements are typified. Thermal efficiency is 2000 kw; it is possible to increase the reactor output by adequate measures from 10 to 20000 kw. Neutron flux: $2 \cdot 10^{13}$ n/cm^2 sec. Numerous horizontal and vertical channels are provided for experiments and isotope production. The concrete screening contains three biological channels of a diameter of 350 mm. Nine control rods are provided, the

Card 1/2

one for the automatic control being made of boron steel, the others of boron carbide. The internal parts of the reactor can be observed by means of an optical device. There are 8 figures and 2 Soviet references.

SUBMITTED: December 26, 1959

√B

86888

S/056/60/039/005/002/051
B029/B077

26.2312

AUTHORS: Fogel', Ya. M., Kozlov, V. F., Polyakova, G. N.

TITLE: A Twofold Charge Exchange of Ions of Alkali Metals

PERIODICAL: Zhurnal eksperimental'noy i teoreticheskoy fiziki, 1960, Vol. 39, No. 5(11), pp. 1186 - 1192

TEXT: The present article presents new experimental data on the twofold charge exchange of Li^+, Na^+, and K^+ ions in several gases. These data show that Massey's adiabatic criterion can be used to find the type of relation between the exchange cross section σ_{1-1} and the velocity of the primary ions in a velocity range $v < v_{max}$. The authors determined the cross section σ_{1-1} for the process $Li^+ \rightarrow Li^-$ in H_2, Ar, Kr, and Xe in the energy interval of 5-60 kev, for the process $Na^+ \rightarrow Na^-$ in H_2, Ar, Kr, Xe in the energy interval of 10-55 kev, and for $K^+ \rightarrow K^-$ in H_2, Ne, Ar, Kr, Xe in the interval of 10-80 kev. The form of the curves

A Twofold Charge Exchange of Ions of Alkali Metals

S/056/60/039/005/002/051
B029/B077

$\sigma_{1-1}(v)$ depends upon the type of ion source that generates the primary-ion beam. The complicated structure of these curves can be explained by the addition of ions in excited, metastable states to the primary ion beam. Therefore, not only $A^+ + B \rightarrow A^- + B^{++}$ processes can take place but also $A^{+*} + B \rightarrow A^- + B^{++}$ (twofold charge exchange of excited fast ions) and $A^{+*} + B \rightarrow A^- + B^{++*}$ processes (twofold charge exchange of excited fast ions accompanied by the production of excited slow ions). The forms of the curves $\sigma_{1-1}(v)$ for the charge exchange $K^+ \rightarrow K^-$ with beams of a thermionic and a high-frequency source are similar, that is, the maxima of these two curves are located at the same velocities. Only the heights of these maxima are different due to a different concentration of excited ions in the beam. The curves representing the charge exchange for the various types of ions are described in detail with the aid of four diagrams. The form of the curves $\sigma_{1-1}(v)$ for the processes $Na^+ \rightarrow Na^-$ and $K^+ \rightarrow K^-$, like that of the previously investigated processes $H^+ \rightarrow H^-$, $Li^+ \rightarrow Li^-$, $B^+ \rightarrow B^-$, $O^+ \rightarrow O^-$, and $F^+ \rightarrow F^-$, can be fully explained by the adiabatic criterion $a|\Delta E|/hv_{max} \approx 1$. a denotes

the distance where the interaction forces act between colliding particles; (G. F. Drukarev gave another explanation for a), and ΔE represents the so-called resonance defect, i.e., the change of intrinsic energy of the particles due to the process considered. During the $K^+ \rightarrow K^-$ process, for instance, the additional maximum is much larger than the principal maximum since σ_{1-1max} decreases rapidly with increasing resonance effect in this case. The form of the curve $\sigma_{1-1}(v)$ follows the formula $\sigma = \sigma_o \exp\{- ka|\Delta E|/hv\}$ only in that section of the curve where the condition $a|\Delta E|/hv \gg 1$ is not satisfied. This also holds for the processes $A^+ + B \rightarrow A^- + B^{++}$ and $A + B \rightarrow A^- + B^+$. At the conference on Electron and Atom Collisions (Riga, June 1959) V. M. Dukel'skiy stated that the deviation from Massey's adiabatic criterion is due to the fact that the relative velocity of the particles is not the same before and during the collision. An investigation of the functions $\sigma(v)$ for different processes at low velocities is considered necessary. The authors thank Professor A. K. Val'ter for his interest, and V. I. Muratov and O. I. Yekhichev for assisting in

A Twofold Charge Exchange of Ions of Alkali Metals

S/056/60/039/005/002/051
B029/B077

measurements. There are 4 figures and 15 references: 12 Soviet, 1 US, and 2 British.

ASSOCIATION: Kar'kovskiy gosudarstvennyy universitet (Khar'kov State University). Krymskaya astrofizicheskaya observatoriya Akademii nauk SSSR (Crimean Astrophysical Observatory of the Academy of Sciences USSR)

SUBMITTED: May 10, 1960

Card 4/4

20675

S/120/61/000/001/006/062
E032/E114

26.2312

AUTHORS: Kozlov, V.F., Marchenko, V.L., and Fogel', Ya.M.

TITLE: A High-Frequency Ion Source with Discharge Taking Place in the Vapours of Salts

PERIODICAL: Pribory i tekhnika eksperimenta, 1961, No.1, pp.25-28

TEXT: High-frequency ion sources using hydrogen as the working gas are widely used in accelerator technology to obtain hydrogen ion beams. High-frequency ion sources have also been used to obtain nitrogen, carbon, oxygen, chlorine, boron and fluorine ion beams. To obtain these ions, use was made of gaseous compounds of the appropriate elements; for example, to obtain C^+, Cl^+, B^+ and F^+, the gases CO_2, CCl_2F_2 and BF_3 were employed. However, it is difficult to obtain ions of metals in this way because the relevant elements do not form gaseous compounds. This difficulty can be overcome by producing the ion beam from the plasma in a discharge occurring in the vapours of solid compounds. This type of ion source is described in the present paper. A sectional drawing of the device is shown in Fig.1. The discharge chamber is in the form of a cylindrical quartz container 30 mm in

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S/120/61/000/001/006/062
E032/E114

A High-Frequency Ion Source With Discharge Taking Place in the Vapours of Salts

diameter and 200 mm long. At the lower part of the chamber there is a spherical bulb 1 containing the substance to be evaporated. The extracting potential difference is applied between the anode 2 and the probe 3. The anode is in the form of a tungsten wire 1 mm in diameter and is spot-welded to a molybdenum foil 0.05 mm thick, fused through quartz. The gas discharge is initiated by means of the coil 4 which is wound on the quartz chamber. The extraction system consists of the probe 3, which is made of the Electron alloy, and the quartz jacket 6. The channel in the probe is 11 mm long and 3 mm in diameter. The extraction system is held at the end of the copper tube 7 which is screwed into the flange of the source. The extraction system can be moved by rotating this tube relative to the flange. The gas is admitted through the leak valve 8 and the pumping speed is controlled by means of the valve 9. Electrical heaters 10 and 11 (900 W each) are attached at each end of the discharge chamber. The lower heater is used to evaporate the charge in 1, while the

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S/120/61/000/001/006/062
E032/E114

A High-Frequency Ion Source With Discharge Taking Place in the Vapours of Salts

upper heater prevents the condensation of the working substance at the other end of the discharge chamber. The coil 4 consists of 4 turns of a copper tube, 6 mm in diameter, supplied by a high-frequency oscillator consisting of a push-pull circuit based on two ГИ-6-Б (GI-6-B) triodes. The oscillator wavelength is 15 m and details of the circuit have been given by Ya.M. Fogel' et al. in Ref.8. The total ion current is measured with the aid of a Faraday cup, and a mass-spectrometric analysis of the ion beam was carried out with the aid of the apparatus described by Ya.M. Fogel' and L.I. Krupnik in Ref.9. The source has been used with NaCl and $NiCl_2$. A mass-spectroscopic analysis of the ion beam obtained with NaCl is illustrated in Fig.6. Ion currents of the order of 1 mA can be obtained with this source, the average lifetime being 50 hours, and the average consumption of the working material 30 mg/hour. Acknowledgements are expressed to A.D. Timofeyev, L.I. Krupnik and A.A. Kalmykov who took part in the development of the design of this source.

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20675

S/120/61/000/001/006/062
E032/E114

A High-Frequency Ion Source With Discharge Taking Place in the Vapours of Salts

There are 8 figures and 9 references: 7 Soviet and 2 English.

ASSOCIATION: Fiziko-tekhnicheskiy institut AN USSR
(Physico-technical Institute, AS Ukr.SSR)

SUBMITTED: February 25, 1960

Card 4/5

L 19346-63 EWT(1)/EWT(m)/BDS/ES(j) AMD/AFFTC/ASD AR/K

ACCESSION NR: AR3005191 S/0272/63/000/007/0168/0168

SOURCE: RZh. Metrologiya i izmer. tekhnika. Otd. vy*p., Abs. 7.32.1145 58

AUTHOR: Kozlov, V. F., Merkulova, V. S.

TITLE: Improving the sensitivity of the IFK-3 method and the determination of measurement accuracy with this method

CITED SOURCE: Sb. rabot po nekotory*m vopr. dozimetrii i radiometrii ionizir. izlucheniy. Vy*p. 2. M., Gosatomizdat, 1961, 23-31

TOPIC TAGS: radiometric sensitivity, individual photodosimetry, dosimetry, quinonethiosulfate sensitizer

TRANSLATION: To determine the measurement accuracy and lower sensitivity limit of the IFK individual photodosimetry technique, the authors obtained 30 runs of standardized x-ray films of the "XX" type (with 10 films in each run) in the dose range from 0.05 to 3.00 roentgens. The results are tabulated. The IFK-3 method affords reliable measurements of γ-irradiation starting with an 0.02 roentgen dose, with a 22% error in the determination of such a dose. The use of

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ACCESSION NR: AR3005191

a quinonethiosulfate sensitizer with the IFK-3 method improves sensitivity 600% in the 0.02-0.20 roentgen small dose region. G. Milyukova.

DATE ACQ: 24Jul63 SUB CODE: GE, NS ENCL: 00

Card 2/2

44443

26.23/2

S/120/62/000/006/022/029
E032/E114

AUTHORS: Kozlov, V.F., Kolot, V.Ya., and Sung Cheai-Chin

TITLE: Production of silicon and germanium ion beams with the aid of a high frequency source

PERIODICAL: Pribory i tekhnika eksperimenta, no.6, 1962, 116-118

TEXT: The Si^+ and Ge^+ ion beams were obtained with the aid of the ion source described in a previous paper by V.F. Koslov, V.L. Marchenko and Ya.M. Fogel' (PTE, no.1, 1961, 25)*. The high frequency discharge was excited in the vapours of $SiCl_4$ and GeI_4 respectively. In the former case (Si^+) the maximum current was obtained at an extracting voltage of 1.7 kV. Mass spectroscopic analysis showed that the ion beam contains up to 30% of silicon ions, so that the source can be used to obtain up to 0.5 μA beam current. A similar result was obtained for Ge^+ ions. Measurements were also made of the ion beam current as a function of the power supplied by the h.f. generator. It was found that high power generators were unnecessary since the power characteristics were reasonably flat curves. The beam currents are said to be capable of improvement (to some tens of μA). This may be achieved by

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better beam focusing. The lifetime of the source in the case of GeI_4 was found to be 50 hours. *Doc. No. 20675 "A High-Frequency Ion Source With Discharge Taking Place in the Vapors of Salts" X
There are 5 figures.

ASSOCIATION: Khar'kovskiy gosudarstvennyy universitet
(Khar'kov State University)

SUBMITTED: January 25, 1962

Card 2/2

38236

S/057/62/032/006/012/022
B108/B102

26.2313

AUTHORS: Kozlov, V. F., and Rozhkov, A. M.

TITLE: A method of measuring the cross section of double charge exchange of singly positive ions at low energies

PERIODICAL: Zhurnal tekhnicheskoy fiziki, v. 32, no. 6, 1962, 719 - 724

TEXT: A new method of measuring the cross section σ_{1-1} of double charge exchange is proposed in which the positive primary ions are separated from the negative secondary ions by a decelerating electrical field. The collecting angle can be increased by proper dimensioning the collector. The ions are separated by a set of three grids in front of the collector, the first of which is earthed, the second on a positive and the third on a negative potential. Secondary ion emission from the grids can be eliminated by properly choosing the negative potential of the third grid which is next to the collector. Secondary electron emission from the collector can be avoided by applying a magnetic field. The measurements were made with an arrangement as shown in Fig. 2. The primary monochromatic ion beam had an energy of from 0.1 to 5 kev. Pressure was $4 \cdot 10^{-6}$ mm Hg. When an ion

A method of measuring ...

scintillation counter is used the whole arrangement becomes simpler since the third grid and the magnetic field are no longer necessary. Results are in good agreement with those of Ya. M. Fogel', et al. (ZhETF, 35, 565, 1958). There are 5 figures.

ASSOCIATION: Fiziko-tekhnicheskiy institut AN USSR Khar'kov (Physico-technical Institute AS UkrSSR Khar'kov)

SUBMITTED: June 17, 1961

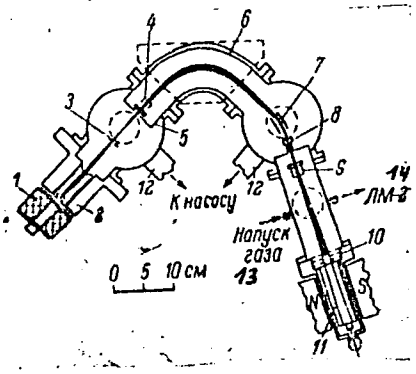

Fig.2.
Legend: (1) arc ion source; (2) electrostatic lenses; (3) adjustable slit; (4) ion trap with magnetic control; (5) slit; (6) magnetic mass analyzer; (7) electrostatic mass analyzer; (8) diaphragm; (9) recording trap; (10) grid system; (11) collector; (12) pipes leading to vacuum pump; (13) gas supply; (14) to pressure gage.

Card 2/2

S/089/63/014/004/019/019
A066/A126

AUTHOR: Kozlov, V.F.

TITLE: Photographic dosimetry of personal β- and γ-radiation

PERIODICAL: Atomnaya energiya, v. 14, no. 4, 1963, 419 - 422

TEXT: A method is proposed for measuring personal soft γ-radiation and determining the gamma dose in a mixed β- and γ-radiation field. Films wrapped up in light-proof paper were put into a film-holder with an opening of 15 by 20 mm and three filters of equal size (thickness, 400, 860, and 1,300 mg/cm^2). After the exposure and development of the films the radiation doses within the energy range 20 - 110 kev can be inferred from the difference between the blackening degrees of the individual film sections. In estimating the beta dose it is possible to determine the amount of blackening due to gamma radiation by using the filters. In the absence of gamma radiation, the beta doses determined by photometric measurements have an error of $\pm$ 20%, and in the presence of gamma radiation the error in measurements rises to 40%. There are 3 figures.

SUBMITTED: October 11, 1962

Card 1/1

L 17585-63 EWT(1)/EPF(n)-2/EWT(m)/BDS/ES(j) AMD/AEETC/ASD/SSD Pu-4 AR/K/DM

ACCESSION NR: AP3005224 S/0089/63/015/002/0152/0155

67

AUTHORS: Kovalenko, V. K.; Kozlov, V. F.; Sivantsev, Yu. V.; Smirnov, Yu. I.

TITLE: Irradiation doses of the personnel of the nuclear power installation aboard the nuclear icebreaker "Lenin" 14

SOURCE: Atomnaya energiya, v. 15, no. 2, 1963, 152-155

TOPIC TAGS: irradiation dosimetry, icebreaker "Lenin", Beta particle, thermal neutron, fast neutron.

ABSTRACT: Methods are described for individual dosimetry. The irradiation doses of the personnel aboard the "Lenin" icebreaker received after three years of service at the nuclear reactor are given. The average dose was 1.62 biological rad. equivalent per year, which is more than three times less than permissible. It has been found that the contribution of thermal neutrons to the total dose was small (average value 8%; maximum 18%). The irradiation by Beta particles and fast neutrons is negligibly small. The general health of the nuclear personnel was comparable with that of the rest of the crew. Orig. art. has: 1 figure, 1 formula.

Card 1/1

L 13615-63 EWT(m)/BDS AFFTC/ASD

ACCESSION NR: AP3003104 S/0056/63/044/006/1823/1825

AUTHOR: Kozlov, V. F.; Fogel', Ya. M.; Stratiyenko, V. A.

TITLE: Two-electron charge exchange of low-energy protons

SOURCE: Zhurnal eksper. i teor. fiziki, v. 44, no. 6, 1963, 1823-1825

TOPIC TAGS: two-electron charge exchange, low-energy protons, hydrogen, argon, krypton, adiabatic region

ABSTRACT: The effective cross sections for two-electron charge exchange of 0.5 - 5 keV protons in hydrogen, argon, and krypton were measured in order to study the behavior of this cross section as a function of the relative velocity of the colliding particles in the adiabatic region. This is a continuation of the shape of the analogous cross-section curves for Li, Na, and K positive ions, made by Ya. M. Fogel', V. F. Kozlov, and G. N. Polyakova (ZhETF, v. 39, 1186, 1960), in which it was indicated that the cross section decreases more slowly than would be called for by the exponential formula postulated by Hasted (J. Appl. Phys. v. 30, 25, 1959). The curve obtained for the energy region below 5 keV joins satisfactorily the curve obtained for protons of energy greater than 5 keV by the mass-spectrometer method, thus affording a check on the reliability of the experimental procedure. The results indicate that in the case of argon and krypton this energy

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L 13615-63
ACCESSION NR: AP3003104

region cannot be regarded as adiabatic, but in the case of hydrogen it can, and the Hasted formula is applicable. Orig. art. has: 2 figures.

ASSOCIATION: Fiziko-tekhnicheskiy institut Akademii nauk Ukrainskoy SSR (Physicotechnical Institute, Academy of Sciences, Ukrainian SSR)

SUBMITTED: 11Jan63 DATE ACQ: 23Jul63 ENCL: 01

SUB CODE: OO NO REF SOV: 006 OTHER: 002

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L 13615-63
ACCESSION NR: AP3003104

ENCLOSURE: 1

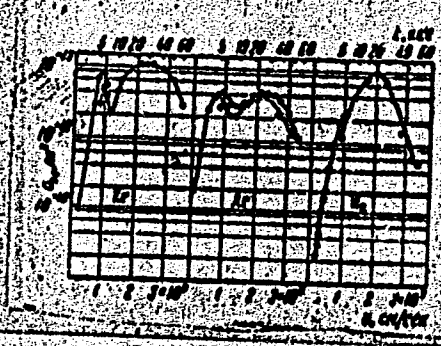

Fig. 1

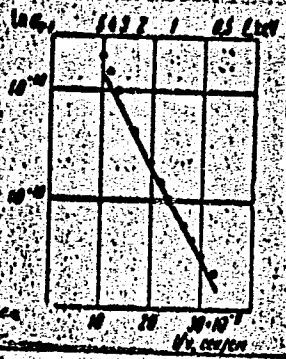

Fig. 2

Fig. 1. Cross sections of two-electron charge exchange of protons in hydrogen, argon, and krypton; o - present data, o - data of [6], Δ - data of [7].
Fig. 2. Plot of two-electron charge-exchange cross section against reciprocal of velocity for hydrogen.

Card 3/3

L 24497-65 EWT(m) DIAAP

ACCESSION NR AM5002717 BOOK EXPLOITATION 17 B+1 S/

Kozlov, Vladimir Fedorovich

Photographic dosimetry of ionising radiation (Fotograficheskaya dosimetriya ioniziruyushchikh izlucheniy); Moscow, Atomizdat, 1964, 154 p. illus., biblio. 1,600 copies printed.

TOPIC TAGS: photographic dosimetry, ionising radiation

PURPOSE AND COVERAGE: This book reviews current photographic methods in dosimetry of ionising radiation. The problems of the application of the theory of photographic processes to concrete instances of photographic inspection are considered and practical recommendations on its organization are made. The book is intended for engineers, technicians, and laboratory workers using photographic methods in dosimetry.

TABLE OF CONTENTS [abridged]:

Introduction -- 3
Ch. I. Photographic effect of ionising radiation -- 6
Ch. II. Exposure and other photographic processes -- 18

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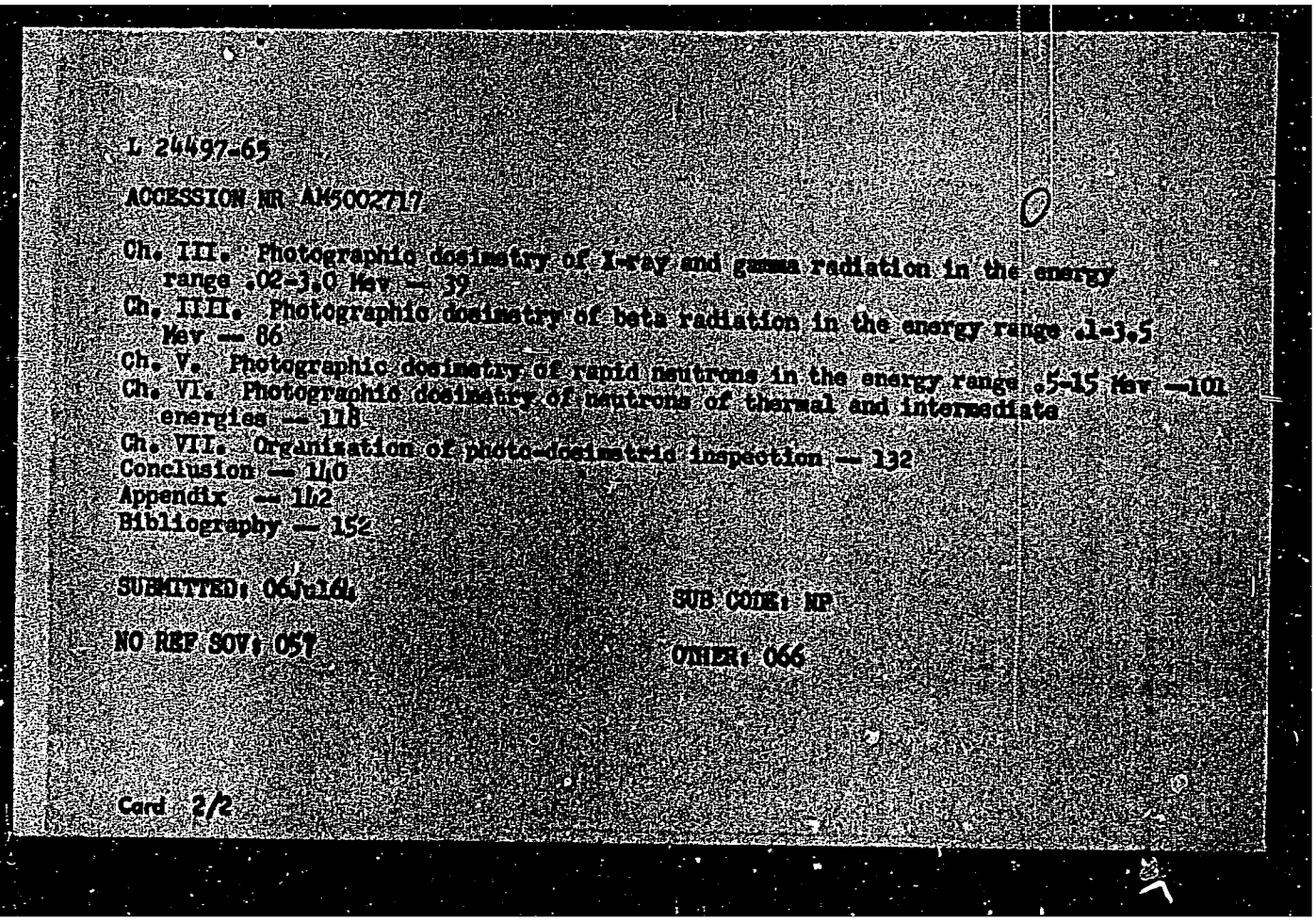

L 24497-65

ACCESSION NR: AM5002717

SUBMITTED: 06Jul64 SUB CODE: NP

NO REF SOV: 057 OTHER: 066

Card 2/2

KOZLOV, V.F.

Upwelling of waters in the equatorial region. Okeanologiia 4 no.1:43-50 '64. (MIRA 17:4)

1. Dal'nevostochnyy gosudarstvennyy universitet.

KOZLOV, V.F.

Meridional structure of currents on the equator. Okeanologiia 4 no.5:919 '64 (MIRA 18:1)

L 11643-66 EWT(m)/T LJP(c)

ACC NR: AP6001571 SOURCE CODE: UR/0120/65/000/006/0081/0083

AUTHOR: Kozlov, V. F.; Kolot, V. Ya.; Dovbnya, A. N.

ORG: Physicotechnical Institute, AN UkrSSR, Kharkov (Fiziko-tekhnicheskiy institut AN UkrSSR)

TITLE: Slow ion counter

SOURCE: Pribory i tekhnika eksperimenta, no. 6, 1965, 81-83

TOPIC TAG: scintillation counter, ion beam

ABSTRACT: A scintillation counter is described in which slow positive and negative ions accelerated up to energies of several kev fall on the first dynode of the secondary-electron multiplier. This arrangement is similar to that described by N. R. Daly in Rev. Scient. Instrum. 1960, 31, 264. However, the single ion-electron stage was replaced by a multistage FEU-38 dynode system with nonactivated dynodes. The electron beam from the secondary-electron multiplier, accelerated up to several kev, enters the scintillator. The scintillation flashes are recorded by a photomultiplier. A high pulse amplitude (enhanced by multistage cascades) completely discriminates dark pulses originated in the photomultiplier. By using nonactivated dynodes with low gain, it became possible to reduce the number of dark pulses to about one pulse per

Card 1/2 UDC: 539.1.074

L 11643-66
ACC NR: AP6001571

2

10 sec. Such a low number permits investigation of ion beams of very low intensity. The FEU-38 photomultiplier was equipped with CsI crystals. The output pulses were recorded by a PS-10000 counter. The voltage was applied from a VS-22 rectifier. The circuit arrangement is shown schematically. The dependence of number of pulses upon the voltage in the accelerating gap was plotted for various gain values. Experimental curves demonstrated that the amplitude of ion pulses was much higher than the amplitude of noise pulses. The counting efficiency was the greatest for energies exceeding 4 kev. Gratitude was expressed by the authors to Ya. M. Fogel' for his consultation and assistance in measurements. Orig. art. has: 4 diagrams.

[22]

SUB CODE: 20/ SUBM DATE: 3Dec64/ ORIG REF: 001/ OTH REF: 002/ ATD PRESS: 4195

Card 2/2

KOZLOV, V.F.

Meridional structure of currents at the equator. Izv. AN SSSR. Fiz. atm. i okeana 1 no.2:214-223 F '65. (MIRA 18:5)

1. Dal'nevostochnyy gosudarstvennyy universitet.

L 28510-66 EWT(1)/FCC GW

ACC NR: AP6014278 (N) SOURCE CODE: UR/0213/66/006/002/0208/0216

AUTHOR: Kozlov, V. F. 17 B

ORG: Far Eastern State University (Dal'nevostochnyy gosudarstvennyy universitet)

TITLE: Geostrophic currents

SOURCE: Okeanologiya, v. 6, no. 2, 1966, 208-216

TOPIC TAGS: ocean current, ocean floor topography, wind velocity , ocean dynamics

ABSTRACT: This paper is devoted to a detailed study of the equation for elevation of the free ocean surface in geostrophic movement and also to an examination of the results that may be obtained without integrating the fundamental equation. Beginning with basic equations for movement of the water, considering longitude and latitude, pressure, density, gravity, angular velocity, and earth radius, the author develops equations with further consideration of bottom topography and interaction between ocean and atmosphere, producing an expression for the necessary conditions for a null surface. Density values are obtained by observation. The equations were used for calculations in three areas of the Pacific Ocean. Wind values were taken from published data. In one area, south of the Kuroshio current, the null surface was computed to lie at 2200 m, which agrees with general views on depression of the null surface in winter. In the northeastern part of the Pacific ocean two

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UDC: 551.465.555(26)

L 28510-66
ACC NR: AP6014278

solutions were obtained: 100 and 1700 m. Only the second conforms to known data on conditions there. Computations for the value at the equator gave 125 and 2400 m. The first appears likely. Whether the second may also be valid is not yet known. In none of the examples did wind velocity appreciably affect the results. Bottom topography, however, proved to be very important. Orig. art. has: 3 figures and 27 formulas.

SUB CODE: 08/ SUBM DATE: 06Apr65/ ORIG REF: 010/ OTH REF: 010

Card 2/2

L 08537-67 EWT(1) GW

ACC NR: AP6034756 SOURCE CODE: UR/0020/66/170/005/1068/1069

AUTHOR: Kozlov, V. F. 38

ORG: Far Eastern State University (Dal'nevostochnyy gosudarstvennyy universitet) B

TITLE: Determination of the depth of the zero surface

SOURCE: AN SSSR. Doklady, v. 170, no. 5, 1966, 1068-1069

TOPIC TAGS: zero surface, geostrophic ~~motion~~ wind, horizontal velocity, earth gravity, ~~acceleration, isobath, hydrodynamic continuity~~ earth surface

ABSTRACT: The zero surface in the ocean denotes that point in depth at which no horizontal motion exists. A new method is proposed to determine the depth of the zero surface based on a system of equations of geostrophic motion in a heterogeneous ocean. Some of the variables are horizontal velocity components, density, gravity acceleration, and the coriolis force. In solving this system of equations, the depth of the zero surface is determined in the form $I(\rho, h)_{z=h} = 0$, where ρ is the density at depth h. The density ρ on the zero surface is a universal function from which the deptn of the zero surface can be determined, and its isobaths can be plotted on a chart. Integrating the equation of continuity along the vertical direction, it is possible to obtain an integral equation from which the depth can be determined. Orig. art. has: 1 figure and 9 formulas.

SUB CODE: 08/ SUBM DATE: 10Jan66/ ORIG REF: 003/ ATD PRESS: 5103

Card 1/1 egk UDC: 551.465.555/261

ACC NR: AP7002454 (N) SOURCE CODE: UR/0362/66/002/011/1205/1207

AUTHOR: Kozlov, V. F.

ORG: Far Eastern State University (Dal'nevostochnyy gosudarstvennyy universitet)

TITLE: Some exact solutions of the nonlinear equation of density advection in the ocean

SOURCE: AN SSSR. Izvestiya. Fizika atmosfery i okeana, v. 2, no. 11, 1966, 1205-1207

TOPIC TAGS: nonlinear equation, ocean dynamics, ocean current, oceanography

ABSTRACT: A unified method is used to construct several particular exact solutions of the nonlinear fourth-order differential equation for advection of density in an ocean subject to geostrophic motion. The solutions obtained are in closed form and include some which have not been obtained previously by other methods. They include the solution obtained by P. Welander (Tellus, v. 11, no. 3, 1959) and by P. Blandford (J. Marine Res. v. 23, no. 1, 1965). Among the new solutions obtained are one particular solution for the case of pure advection, which goes over into Welander's solutions under certain assumptions, and a solution which determines the vertical velocity of the water masses in the ocean. It is particularly important for problems involving the absence of horizontal advection and can be used for construction of various models of the ocean thermoclines. Orig. art. has: 17 formulas.

SUB CODE: 08/ SUBM DATE: 17Jan66/ ORIG REF: 006/ OTH REF: 004

Card 1/1 UDC: 551.461.1

SOZINOV, A.A., kand. sel'skokhoz, nauk; KOZLOV, V.G.

Importance of the environmental conditions in the formation of the technological qualities of the grain of winter wheat. Agrobiologiia no.1:115-119 Ja-F '64 (MIRA 17:8)

1. Vsesoyuznyy selektsionno-geneticheskiy institut, Odessa.

SOZINOV, A.A., kand. sel'skokhoz. nauk, KOZLOV I.G.; [illegible], I.G.

Fertilizers and the quality of grain. Zemledelie 27 no.6:60-64 Je '65. (MIRA 18:9)

1. Vsesoyuznyy selektsionno-geneticheskiy institut.

KOZLOV, V.G.; EYGENSON, V.Ye.; MITROFANOV, G.G.; SHEKHTER, L.S.

Modern anesthesia in neurosurgery. Trudy Inst. klin. i eksp. khir. AN Kazakh. SSR 9:139-142 '63. (MIRA 17:12)

KOZLOV, V.G.

Use of muscle relaxants in setting dislocations and fractures.
Trudy Inst. klin. i eksp. khir. AN Kazakh. SSR 9:147-151 '63.
(MIRA 17:12)

TARASZOVA, Z.N.[Tarasova, Z.N.];KOZLOV, V.G.; DOGADKIN, B.A.

Simultaneous vulcanization of caoutchouc by sulfur and ionizing radiation. Magy kem lap 19 no.7:354-359 Jl '64.

1. Scientific Research Institute of Rubber Industry, Moscow.

86278
S/188/60/000/005/007/010
B019/B056

24, 2200 (1035, 1160, 1162)

AUTHORS: Telesnin, R. V., Dzaganiya, Ye. P., Kozlov, V. I.

TITLE: Delayed Jumps of the Intensity of Magnetization

PERIODICAL: Vestnik Moskovskogo universiteta. Seriya 3, fizika, astronomiya, 1960, No. 5, pp. 60 - 67

TEXT: The authors investigated the delayed jumps of intensity of magnetization of iron-nickel alloys with 50% nickel. The thickness of the samples was 5 - 100 microns. By delayed jumps of magnetization, the authors understand Barkhausen jumps, which occur some time after the change in the external magnetic field. The samples were produced according to the production rules of the TsNIIChYeRMYeT. As may be seen from the results shown in diagrams, the ranges of the field strength in which Barkhausen jumps occur, are extended with increasing coercive force of the sample. A decrease or an increase of the field strength shifts the distribution curve of the Barkhausen jumps into the range of stronger or weaker fields. Further, a temperature dependence of the total number was observed. The occurrence of two maxima in the curve representing the

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Delayed Jumps of the Intensity of Magnetization

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number of jumps as a function of the external field strength, indicates the existence of several magnetic phases with different coercive forces. In the case of fields near coercive force, the relation $N = N_0(1-e)^{-t/\tau}$ (1) exists for the number of delayed jumps and $\tau = 10$ sec holds for 5 micron, $\tau = 4$ sec for 100 micron, and $\tau = 0.8$ sec for 20-micron samples. There is therefore an optimal thickness for a minimal τ. Further, it was found that for each sample a certain temperature exists, at which a maximum of delayed jumps occurs. There are 3 figures and 4 Soviet references.

ASSOCIATION: Kafedra obshchey fiziki dlya fizikov (Department of General Physics for Physicists)

SUBMITTED: March 19, 1960

Card 2/2

30067
S/048/61/025/011/012/031
B104/B102

9.2571
24.7900 (1055, 1144, 1163)

AUTHORS: Fabrikov, V. A., Kozlov, V. I., Kadeyev, V. T. and Kudryavtsev, V. D.

TITLE: Experimental study of effects on yttrium ferrite single crystals, which are related to nutational oscillations of magnetization of the material on ferromagnetic resonance

PERIODICAL: Akademiya nauk SSSR. Izvestiya. Seriya fizicheskaya, v. 25, no. 11, 1961, 1367 - 1371

TEXT: Nonlinear gyromagnetic effects in ferrites may, in first approximation, be divided into two groups. The first group consists of those gyromagnetic effects which are related to the frequency modulation the other gyromagnetic effects related to the angle modulation of the precessional motion. The effects examined on yttrium garnet single crystals belong to the second group. The authors studied the interaction of two electromagnetic signals in the specimen: a h-f signal (10,000 Mc) polarized at right angles to the direction of magnetization and a l-f signal (0.5 - 8 Mc) polarized in the direction of magnetization The magnetic field

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directions in the experiments are shown in Fig. The theoretical aspect of the problem under consideration had been previously studied by V. A. Fabrikov (Radiotekhnika i elektronika, 3 no 2 190 (1958); 4 no. 7, 1203 (1959); 6 no 10, 1707 (1961)) Fig 3 bases on these papers to show the complex susceptibility χ of a magnetized ferrite as a function of the constant magnetizing field. This function was calculated with the following formula derived in the previous papers:

$$\chi_{\Omega} = \frac{Mh_1^2}{(\Delta H)^3} \frac{x}{1+x^2} \frac{1+x^2+y^2+2y}{(1+x^2-y^2)^2+4y^2} \qquad (2)$$

Here, the magnetic moment M = const; h_1 is the amplitude of the circularly polarized h-f field; $\Delta H = 1/\gamma' T_2$ is the half width of the ferromagnetic resonance line; γ' = 2.8 Mc/oe is the gyromagnetic ratio of the electron spin; $x = (H_{res} - H_c)/\Delta H$ and $y = \Omega T_2$; and $\chi = \chi' + \chi''$ The investigation was conducted with an yttrium ferrite single crystal where the width of the ferromagnetic resonance line was ~ 2 oersteds The spherical specimens (0.5 - 1mm in diameter) were placed in the center of a coil with several turns. The coil was connected to a resonant circuit (0.5 - 10 Mc). To

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Experimental study of effects...

gether with the specimen it was placed in a square waveguide connected to a klystron generator. The parameters of the circuit with the specimen were periodically changed by a h-f signal (3 cm). The curve describing the ferrite losses under the action of the h-f signal was observable on an oscilloscope screen. Experimental data are compared in Fig. 5. with a theoretical curve. The modulation field causes the ferromagnetic resonance lines to be broadened. The effect investigated may be used for studying resonance effects in ferrites with narrow resonance lines. K. M. Polivanov is thanked for his interest. There are 5 figures and 7 Soviet references.

Fig. 2. Phase relations between changes of the magnetizing field H_z and the precession angle φ of magnetic moments in the material.
Fig. 3. Complex susceptibility of a magnetized ferrite relative to a l-f modulation field h_z as a function of the constant magnetizing field.
Fig. 5. χ'' as a function of amplitude h_0 and of frequency f of the l-f field. Legend: (1) $\chi''(h_0)$; (2) $\chi''(f)$. The circles are experimental values; the curves were calculated.

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15(4) S/183/59/000/06/003/027
B004/B007

AUTHORS: Sych, L. S., Kozlov, V. I., Petukhov, B. V., Konkin, A. A.

TITLE: The Utilization of Polymer-waste of the Production of Lavsan Fiber

PERIODICAL: Khimicheskiy volokna, 1959, Nr 6, pp 12-14 (USSR)

ABSTRACT: Among the waste in the production of the Lavsan fiber, a polyester fiber, the hanks of the godet wheels may be utilized without any special chemical treatment. They are disentangled on a device shown in figure 1, cut up into rayon fiber, and are used as filling medium for upholstered goods and winter clothing. The larger part of the waste (resinified polymer, waste products of the spinnerets, torn fibers) must, however, be decomposed to the initial product (dimethyl-terephthalate). The authors mention respective English patents (Refs 1, 2) and also their attempts at decomposing the polymer by hydrolysis in water or lye and by means of methanol. In water (7 parts by weight corresponding to one part by weight of polymer)

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decomposition takes place at 20 to 23 atm within an hour, at 15 atm within 5 hours. The precipitated terephthalic acid is filtered off, dissolved and reprecipitated, and again methylated. In 5 to 7% NaOH (7 to 8 parts by weight corresponding to 1 part by weight polymer) decomposition at 9 to 10 atm takes place within 1 to 2 hours (Table 1). The quantity of re-obtained terephthalate depends on the shape and the size of the waste products. Decomposition by means of methanol is especially recommended, because methanol is a waste product of Lavsan production, directly forms dimethyl terephthalate, and therefore requires no further chemicals (Table 2). The dimethyl terephthalate yield depends on the molecular weight of the polymer (Fig 4) and on the catalyst used in its synthesis (potassiumantimonyl tartrate, calcium acetate, zinc acetate, figure 3). The authors recommend 2 to 3 parts by weight of methanol corresponding to 1 part by weight of polymer, 26 to 27 atm, duration of reaction 3 to 6 h. There are 4 figures, 2 tables, and 2 references.

The Utilization of Polymer-waste of the Production of Lavsan Fiber

S/183/59/000/06/003/027
B004/B007

ASSOCIATION: VNIIV - Vsesoyuznyy nauchno-issledovatel'skiy institut iskusstvennogo volokna
(All-Union Scientific Research Institute for Synthetic Fibers)

Card 3/3

GERSHKOVICH, S.F.; KOZLOV, V.I. (Kemerovo)

Some defects in water-supply and sewage designs. Vod. i san. tekh. no.6:14-15 Je '59. (MIRA 12:8)
(Water-supply engineering) (Sewerage)

SEMENOV, Gennadiy Alekseyevich, inzh.; YERSHOV, Yevgeniy Fedorovich, inzh.; KOZLOV, Vitaliy Ivanovich, mashinist; NIKITIN, Geniy Nikolayevich, inzh.; KRYLOV, S.S., inzh., retsenzent; YAKOVLEV, D.V., inzh., red.; OSIPOV, S.I., inzh., red.; VOROTNIKOVA, L.F., tekhn. red.

[Detecting and eliminating defects in the electric circuits of a.c. electric locomotives] Obnaruzhenie i ustranenie neispravnostei v elektricheskikh tsepiakh elektrovozov peremennogo toka [By] G.A.Semenov i dr. Moskva, Vses. izdatel'sko-poligr. ob"edinenie M-va putei soobshcheniia, 1961. 127 p.
(MIRA 15:3)

(Electric locomotives--Maintenance and repair)

KOZLOV, Vladimir Ivanovich; SON DIN FA [Son Chin-hw]; ISKHAKOV, Rakhmatulla; KOCHERGOV, V.A., red.; ABBASOV, T., tekhn. red.

[Striving for a diversified development of agriculture]V bor'be za kompleksnoe razvitie khoziaistva. Tashkent, Gosizdat UzSSR, 1961. 23 p. (MIRA 15:10)
(Uzbekistan—Agriculture)

KOZLOV, V. I.

KOZLOV, V. I.

Data on agricultural traumatism in Chkalov region. Soviet zdravookhr. No. 5, Sept.-Oct. 50. p. 28-31

1. Of the Surgical Division (Head -- Prof. M. I. Levantovskiy), Chkalov Oblast Clinical Hospital (Head Physician -- V. I. Vyalykh).

CLML 20, 3, March 1951

KOZLOV, V.I

GRYZLOVA, L.N., KOZLOV, V.I.

Treatment of fractures of long bones by metallic osteosynthesis
Ortop.travm. i protez 19 no.2:13-16 Mr-Ap '58 (MIRA 11:5)

1. Iz kafedry fakul'tetskoy khirurgii (zav. - prof. M.I. Levantovskiy) Chkalovskogo meditsinskogo instituta (dir. - I.V. Sidorenko).
(FRACTURES, surg.
metallic osteosynthesis in fract. of long bones (Rus))

KOZLOV, V.I.

Commutator on semiconductor devices. Trudy TSAO no.42:136-146 '62. (MIRA 15:12)
(Transistors)